

What is claimed is:

1. An automatic dispenser, comprising:
a main dispensing chamber;
5 a portioning chamber in fluid communication with said main dispensing chamber;
an outlet valve in fluid communication with said portioning chamber; and
a control system controlling the movement of a manual
10 plunger in said main dispensing chamber, a portioning plunger in said portioning chamber, and said outlet valve so as to dispense portions of product.
2. An automatic dispenser as recited in claim 1, wherein
15 the cross-section of the main dispensing chamber perpendicular to the direction in which the main plunger moves is substantially larger than the cross-section of the portioning chamber perpendicular to the direction in which the portioning plunger moves.
3. An automatic dispenser as recited in claim 1, wherein
20 the dispenser includes a storage chamber which houses the main dispensing chamber; and a door which opens and closes to provide access to the main dispensing chamber through said door.
4. An automatic dispenser as recited in claim 3, wherein
said door houses the control system for controlling said outlet valve and said portioning plunger.
- 25 5. An automatic dispenser as recite din claim 4, wherein said control system is fluid operated.

6. An automatic dispenser as recited in claim 4, wherein said control system is electrically-operated.

7. An automatic dispenser, comprising:
a main chamber, housing a main cylinder and a main
5 plunger which operates said main cylinder;
a door, which provides access to said main chamber,
said door containing a portioning actuator; an outlet valve actuator;
and an outlet port.

8. An automatic dispenser as recited in claim 7, wherein
10 said portioning actuator and outlet valve are fluid-operated cylinders.

9. An automatic dispenser as recited in claim 8, and further
comprising a fluid path from said main cylinder to said outlet port; a
portioning chamber in fluid communication with said fluid path; a
portioning plunger in said portioning chamber; an outlet cylinder in
15 said fluid path, said outlet cylinder defining said outlet port; and an
outlet plunger in said outlet cylinder.

10. An automatic dispenser as recited in claim 9, wherein
said portioning actuator controls said portioning plunger, and said
outlet valve actuator controls said outlet plunger.

20 11. An automatic dispenser as recited in claim 10, wherein
said portioning chamber has a substantially smaller diameter than
said main cylinder.

12. An outlet valve for a dispenser, including a housing
defining an outlet opening; a dispensing plunger movable in said
25 housing from a lowered, closed position, to a raised, open position,

wherein said housing has an interior surface which defines a vertical, cylindrical wall, which, at its lower end, terminated with inwardly-and downwardly-directed leaves; and therein said dispensing plunger has an outer, cylindrical surface which fits in the interior surface of said housing and at its lower end includes an inwardly-tapering portion which taper inwardly and downwardly at the same angle as and mates snugly with the leaves when said dispensing plunger has a concave bottom surface which intersects said inwardly-tapering portion at a circle.

10 13. An outlet valve as recited in claim 12, wherein said leaves terminate at innermost points, and when said dispensing plunger is in the closed position, said circle is aligned with said innermost points of said leaves.

15 14. A dispensing machine, including:
 a main chamber;
 a door which closes off said main chamber in a first position and provides access to said main chamber in a second position;
 at least one main cylinder in said main chamber; an
20 opening through said door; and a fluid pathway from said main cylinder to said opening in said door.

15. A dispensing machine as recited in claim 14, wherein said platform is connected to said main cylinder so that, as said platform shifts forward, said cylinder also shifts forward.

25 16. A dispensing machine, comprising:
 a main storage chamber;

at door which, in one position, closes off said storage chamber, and in another position, provides access into said main storage chamber, said door defining a dispensing opening;

at least one man cylinder in said main storage chamber;

5 a fluid path from said main cylinder through said dispensing opening, said fluid path including a tube extending from said cylinder to said dispensing opening, wherein said tube includes a cylindrical housing from an open position, permitting product to travel through said tube and through said dispensing opening, to a closed
10 position, which prevents product from traveling out said tube to be dispensed, said tube being mounted to said cylinder; and said dispensing valve defining a circular flange at one end.; and

 a dispenser actuator mechanism mounted on said door, including a receptacle which, when said door is closed, mates with
15 said circular flange so that, as said dispenser actuator mechanism shifts from one position to another, it moves said dispensing valve to its open and closed positions, and which, when said door opens, releases said circular flange.

17. A dispenser, comprising:

20 a main storage chamber;

 at least one main product cylinder in said main storage chamber;

 a source of pressurized fluid;

25 a fluid path from said source of pressurized fluid to said main product cylinder; and;

 a control system for controlling the flow of fluid from said source of pressurized fluid to said main product cylinder, including a foot-operated controller, located near the bottom of said main storage chamber and a Venturi valve, such that, upon actuating said floor-
30 operated controller, said pressurized fluid is directed through said

Venturi, creating a suction which communicated with said main product cylinder.

18. A dispenser, comprising:
- 5 a main storage chamber;
at least one main product cylinder in said main storage chamber;
- a source of pressurized fluid;
a fluid path from said source of pressurized fluid to said main product cylinder; and
- 10 a pneumatic control system for controlling the flow of fluid from said source of pressurized fluid to said main product cylinder, including a fluid path past a Venturi valve; and pneumatically-controlled valves which selectively provide pressurized air and vacuum to said main product cylinder to selectively dispense
- 15 product from said cylinder.